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UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/889,000	06/22/2001	Shinji Uebayashi	3815/124	3372

22913 7590 09/15/2005	EXAMINER
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ART UNIT	PAPER NUMBER
2661	

DATE MAILED: 09/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 June 2005*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5,7-26 and 28-48* is/are pending in the application.

    4a) Of the above claim(s) *6 and 27* is/are withdrawn from consideration.

5)☐ Claim(s) *7,16,17,32,41 and 42* is/are allowed.

6)☒ Claim(s) *1-5,8-15,18-26,28-31,33-40 and 43-48* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *6/22/2001* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date *5/21/2002*.

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____ .

DETAILED ACTION

Response to Amendment/Arguments

1.   This Office Action is in response to the Response/Amendment filed on June 10th, 2005.

Claims 6 and 27 are now canceled. Claims 1-5, 7-26 and 28-48 are now pending in the

application.

Drawings

2.   The drawings are objected to because all blocks in Figures 1 and 3-7 should be labeled

with descriptive legends based on 37 C.F.R. § 1.84(o) for supporting the objection in the Rules

and M.P.E.P. A proposed drawing correction or corrected drawings are required in reply to the

Office action to avoid abandonment of the application. The objection to the drawings will not be

held in abeyance.

Claim Objections

3.   Claims 16 and 17 is objected to because of the following informalities:

Regarding claim 16, line 7, the word "form" right after the term "is switched" should be

corrected to -- from --.

Same objection's reason for claim 17, line 7, the word "form" right after the term "is

switched" should be corrected to -- from --.

Appropriate corrections are required.

Claim Rejections - 35 USC § 102

4.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent

5.   Claims 2-5, 8-15, 18-26, 28-31, 33-40, and 43-48 are rejected under 35 U.S.C. 102(a) as

being anticipated by **Johnson, Christopher Philip** (EP 0975184 A1; hereinafter refer as

'**Johnson**').

As to claims 2, 4, 28, and 30, Johnson discloses a communication apparatus (Fig. 2) for

assigning a channel for use in communication between a mobile station (Fig. 1, mobile station

108) and a base station (Fig. 1, base station 104) having one or more service areas (Fig. 1 ,

service areas 102, 110, 112), a microprocessor 200, Fig. 2 (a means for judging and a means for

assigning the channel). Johnson discloses a communication apparatus illustrated in Fig. 8. Upon

receiving request for service (request for channel assignment) step 802 determines if the cellular

telephone has the TDD and FDD duplexing schemes (whether a condition exists to make it is

possible to assign both a channel for a service area based on a FDD and a TDD method) (column

8, lines 51-54). Johnson discloses when the physical circumstances of the terminal, that cause the

terminal to request a cell change frequently (high handover frequency), and large cell scheme

allocated in order to reduce the number of handovers (column 8, lines 23-25) Fig. 8 step 810 at

K1 (column 9, lines 34-41). Johnson discloses when the physical circumstances of the terminal,

that cause the terminal to request a cell change determined due to terminal position from the base

station 104 (column 9, lines 15-23), which causes the transmitted signal from the terminal (a

forward common channel) low as the terminal moves away from the base station (the maximum

reception power value becomes low) which implies the terminal is fading out, Fig. 8 step 810 at

K2. If the output is YES (the request is satisfied) to the FDD and TDD, Johnson proceeds to

determine the preferred duplexing method step 810. Depending on the output of the step 810,

Johnson proceeds (condition is satisfied) to either assign FDD or TDD duplexing method step

812 (assigns the FDD method) (column 10, lines 34-41).

As to claims 3, 5, 29 and 31, Johnson discloses a communication apparatus (Fig. 2) for

assigning a channel for use in communication between a mobile station (Fig. 1, mobile station

108) and a base station (Fig. 1, base station 104) having one or more service areas (Fig. 1,

service areas 102, 110, 112), a microprocessor 200, Fig. 2 (a means for judging and a means for

assigning the channel). Johnson discloses a communication apparatus illustrated in Fig. 8. Upon

receiving a request for service (request for channel assignment), step 802 determines if the

cellular telephone has TDD and FDD duplexing schemes (whether a condition exists to make it

is possible to assign both a channel for a service area based on a FDD and a TDD method)

(column 8, lines 51-54).

Johnson discloses when the physical circumstances of the terminal that causes the

terminal to request a cell change not frequently (low handover frequency) which implies the

terminal is not moving out of the current service area, and the terminal position remains the same

Fig. 8 step 810 at K2 (column 9, lines 34-41; column 8, lines 14-26).

Johnson discloses when the physical circumstances of the terminal, that causes the

terminal to request a cell change, is determined due to the terminal position from the base station

104 (column 9, lines 15-23), which causes the transmitted signal from the terminal (a forward

common channel) high as the terminal moves toward the base station (the maximum reception

power value becomes high) Fig. 8 step 810 at K2. If the output is YES (the request is satisfied) to

the FDD and TDD, Johnson proceeds to determine the preferred duplexing method step 810.

Depending on the output of the step 810, Johnson proceeds (condition is satisfied) to either

assign FDD or TDD duplexing method step 812 (assigns the TDD method; column 10, lines 34-

41).

As to claims 8, 10, 12, 14, 18, 33, 35, 37, 39, and 43, Johnson discloses a communication

apparatus (Fig. 2) for assigning a channel for use in communication between a mobile station

(Fig. 1, mobile station 108) and a base station (Fig. 1, base station 104) having one or more

service areas (Fig. 1, service areas 102, 110, 112), a microprocessor 200, Fig. 2 (a means for

detecting and a means for switching the assigned channel). Johnson discloses a communication

apparatus illustrated in Fig. 8. Upon reaching step 814, information regarding the terminal's

duplexing scheme is assigned, it is updated every time a duplexing scheme changes (column 9,

lines 3-6), hence step 802 determines (detects) if the cellular telephone has already assigned the

TDD or FDD duplexing schemes by analyzing a system database (for a service area based on a

TDD method that is currently assigned) (column 8, lines 51-52).

Johnson discloses when the physical circumstances of the terminal, that cause the

terminal to require a cell change (service area) frequently (high handover frequency), and large

cell scheme allocated (switched) in order to reduce the number of handovers (column 8, lines 23-25) Fig. 8 step 810 at K1 (column 9, lines 34-41).

Johnson discloses the microprocessor 200 of the base station 104, which determines a preferred duplexing scheme (FDD method) if there is an interference (a high transmission power) in the system (column 9, lines 24-25).

Johnson discloses the physical circumstances of the terminal at K1, K2 in Fig. 8, as illustrated in Fig. 9. Depending on the output of step-930 (the output of 930 is less than threshold value, NO) (power of a forward common channel is low) the microprocessor 200 of the base station 104 determines a preferred duplexing scheme (FDD method).

Johnson discloses determining the type of service required by the terminal, asymmetry K4 (column 8, lines 20-22).

Johnson discloses assigning a TDD method for asymmetrical data traffic (unbalance reverse and forward traffic), and assigning an FDD method for symmetrical data traffic (balance reverse and forward traffic), disclosed indirectly. Johnson discloses determining the type of service required by the terminal Fig. 8 at K4, and if the data traffic is symmetric (a particular communication), a favorable duplexing scheme is FDD method (column 8, lines 20-22).

Johnson proceeds to switch the preferred duplexing method step 810. Depending on the output of step 810, Johnson proceeds to either assign FDD or TDD (assigns FDD method) duplexing method step 812 (column 10, lines 34-41).

As to claims 9, 11, 13, 15, 20, 34, 36, 38, 40, and 44, Johnson discloses a communication apparatus (Fig. 2) for assigning a channel for use in communication between a mobile station

(Fig. 1, mobile station 108) and a base station (Fig. 1, base station 104) having one or more

service areas (Fig. 1, service areas 102, 110, 112), a microprocessor 200, Fig. 2 (a means for

detecting and a means for switching the assigned channel). Johnson discloses a communication

apparatus illustrated in Fig. 8. Upon reaching step 814, information regarding the terminal's

duplexing scheme is assigned; it receives updates every time a duplexing scheme changes

(column 9, lines 3-6), hence step 802 determines (detects) if the cellular telephone has already

assigned the TDD or FDD duplexing schemes by analyzing a system database (for a service area

based on a FDD method is currently assigned) (column 8, lines 51-52).

Johnson discloses when the physical circumstances of the terminal, that cause the

terminal to request a cell change not frequently (low handover frequency) which implies the

terminal is not moving out of the current service area, and smaller cell scheme allocated

(switched) in order to allocate or increase system capacity (column 7, lines 53-56).

Johnson discloses the microprocessor 200 of the base station104, which determines a

preferred duplexing scheme (TDD method) if the base station asks the terminal to increase the

transmission power while in FDD method; the threshold for interference increases, so the

microprocessor 200 determines the preferred schemes (TDD method) without changing the

transmission power level (a low transmission power) in the system (column 9, lines 24-25).

Johnson discloses the physical circumstances of the terminal at K1, K2 in Fig. 8 as

illustrated in Fig. 9. Depending on the output of step-930 (the output of 930 is greater than

threshold value, YES) (power of a forward common channel is high) the microprocessor 200 of

the base station104 determines a preferred duplexing scheme (TDD method).

Johnson discloses determining the type of service required by the terminal, asymmetry K4 (column 8, lines 20-22). Johnson discloses assigning TDD method for asymmetry data traffic (unbalance reverse and forward traffic).

Johnson discloses determining the type of service required by the terminal Fig. 8 at K4, and if the data traffic is asymmetric (a particular communication), a favorable duplexing scheme is TDD method (column 8, lines 20-22).

Johnson proceeds to switch the preferred duplexing method step 810. Depending on the output of step 810, Johnson proceeds to either assign FDD or TDD (assigns TDD method) duplexing method step 812 (column 10, lines 34-41).

As to claim 19, in addition to features in base claim 18 (see rationales pertaining the rejection of base claim 18 discussed above), Johnson further discloses wherein the particular type of communication is voice communication (col. 4, lines 5-7; col. 8, lines 20-34 implicitly taught because FDD systems are better suited to handle low to moderate data rates such as voice).

As to claim 21, in addition to features in base claim 20 (see rationales pertaining the rejection of base claim 20 discussed above), Johnson further discloses wherein the particular type of communication is data communication (col. 4, lines 5-7; col. 8, lines 20-22; implicitly taught because TDD systems are better suited to handle asymmetrical traffic with high data rate).

As to claim 22, in addition to features in base claims 8, 10, 12, 14, or 18 (see rationales pertaining the rejection of base claims 8, 10, 12, 14, or 18 discussed above), Johnson further

discloses about voice traffic that needs balanced duplexing scheme (symmetric traffic high);

FDD method is favorable (column 8, lines 14-22).

As to claim 23, in addition to features in base claims 9, 11, 13, 15, or 20 (see rationales

pertaining the rejection of base claims 9, 11, 13, 15, or 20 discussed above), Johnson further

discloses about data traffic that needs unbalanced duplexing scheme (asymmetric traffic high);

TDD method is favorable (column 8, lines 14-22).

As to claims 24 and 45, Johnson discloses a communication apparatus (Fig. 2) for

assigning a channel for use in communication between a mobile station (Fig. 1, mobile station

108) and a base station (Fig. 1, base station 104) having one or more service areas (Fig. 1,

service areas 102, 110, 112), a microprocessor 200, Fig. 2 (a means for detecting and a means for

switching the assigned channel). Johnson discloses a communication apparatus illustrated in Fig.

8. Upon reaching step 814, information regarding the terminal's duplexing scheme is assigned,

and it is updated every time a duplexing scheme changes (column 9, lines 3-6), hence step 802

determines (detects) if the cellular telephone has already assigned the TDD or FDD duplexing

schemes by analyzing a system database (for a service area based on a TDD method is currently

assigned) (column 8, lines 51-52). After determining the current assigned duplexing scheme

(TDD method), Johnson discloses determining the interference in the system Fig. 8 at K6, K7,

and assigning the prefer duplexing scheme according to step 812 (column 9, lines 24-40) which

is to say, if the threshold level for interference in the system is unacceptable (high interference),

a favorable duplexing scheme is the FDD method (column 8, lines 20-22). Johnson proceeds to

switch the preferred duplexing method step 810. Depending on the output of the step 810,

Johnson proceeds to allocate either FDD or TDD (switching the assigned channel to FDD

method) duplexing method, step 812 (column 10, lines 34-41).

As to claims 25 and 46, Johnson discloses a communication apparatus (Fig. 2) for

assigning a channel for use in communication between a mobile station (Fig. 1, mobile station

108) and a base station (Fig. 1, base station 104) having one or more service areas (Fig. 1,

service areas 102, 110, 112), a microprocessor 200, Fig. 2 (a means for detecting and a means for

switching the assigned channel). Johnson discloses a communication apparatus illustrated in Fig.

8. Upon reaching step 814, information regarding the terminal's duplexing scheme is assigned,

and it is updated every time a duplexing scheme changes (column 9, lines 3-6); hence step 802

determines (detects) if the cellular telephone has already assigned the TDD or FDD duplexing

schemes by analyzing a system database (for a service area based on a TDD method is currently

assigned) (column 8, lines 51-52). After determining the current assigned duplexing scheme

(FDD method), Johnson discloses determining interference in the system Fig. 8 at K6, K7, and

assigns the preferred duplexing scheme according to step 812 (column 9, lines 24-40) which is to

say, if the threshold level for interference in the system is unacceptable (high interference), a

favorable duplexing scheme is the TDD method (column 8, lines 20-22). Johnson proceeds to

switch the preferred duplexing method step 810. Depending on the output of step 810, Johnson

proceeds to allocate either FDD or TDD (switching the assigned channel to TDD method)

duplexing method step 812 (column 10, lines 34-41).

As to claim 26, in addition to features in base claims 2-5, 8-15, 18, 20, 24, or 25 (see

rationales pertaining the rejection of base claims 2-5, 8-15, 18, 20, 24, or 25 discussed above),

Johnson further discloses the channel assigning method, wherein the FDD method is a CDQA-

FDD (column 2, lines 53-55) and the TDD method is a CDMA-TDD (column 2, lines 53-55).

As to claim 47, in addition to features in base claims 28-46 (see rationales pertaining the

rejection of base claims 28-46 discussed above), Johnson further discloses wherein the

communication apparatus (Fig. 2) is a control station, which controls a base station (col. 3, lines

24-34, the base station which is controlled by microprocessor 200, which type of duplexing

method to use according to the user information received, is controlled by microprocessor 200).

As to claim 48, in addition to features in base claims 28-46 (see rationales pertaining the

rejection of base claims 28-46 discussed above), Johnson further discloses wherein the

communication apparatus is a base station (Fig. 1, base station 104; col. 3, lines 24-34, base

station 104 comprises the apparatus in Fig. 2).

Response to Amendment/Arguments

6.   Applicant's arguments filed on June 10th, 2005 have been fully considered but they are

not persuasive.

In regard to claims 2-3 and 28-29, Applicant argues that Johnson fails to disclose the

system and method for judging the request for the channel assignment for the service area based

on the TDD method or the FDD method and "*a handover frequency of the mobile station related*

to the request" for assigning the channel. Examiner respectfully disagrees. Johnson does disclose system and method for allocating resources to the terminal in response to the criteria used in the system such as 'circumstances and characteristics' of the cellular telephone as disclosed in col. 9, lines 15-25; which determine by the weighted values corresponding to the velocity and position of the cellular telephone in within macrocell, microcell, and picocell, e.g. "*a handover frequency of the mobile station related to the request*", as disclosed in col. 9, lines 41-43; col. 10, lines 11-16 (For example see Figs. 8-9) in determining whether the TDD or FDD scheme is allocated disclosed in col. 10, lines 34-41. Therefore, Examiner concludes that Johnson teaches the arguable feature.

Regarding claims 4-5 and 30-31, Applicant argues that Johnson fails to disclose the system and method for judging the request for the channel assignment for the service area based on the TDD method or the FDD method and the "*maximum reception power value of a forward common channel of the mobile station related to the request*" for assigning the channel. Examiner respectfully disagrees. Johnson does disclose system and method for allocating resources to the terminal in response to the criteria used in the system such as 'circumstances and characteristics' of the cellular telephone as disclosed in col. 9, lines 15-25; wherein the received power is estimated by the power estimator under the power control, e.g. "*maximum reception power value of a forward common channel of the mobile station related to the request*", as disclosed in col. 6, lines 2-10; in determining whether the TDD or FDD scheme is allocated disclosed in col. 10, lines 34-41. Therefore, Examiner concludes that Johnson teaches the arguable feature.

In regard to claims 8-25 and 33-46, Applicant argues that Johnson fails to disclose the system and method for "*detecting the mobile station to which the channel for the service area based on the method TDD or FDD is currently assigned and the channel based on the other method can be assigned*". Examiner respectfully disagrees. Johnson does disclose system and method for allocating resources to the terminal in response to the criteria used in the system such as 'circumstances and characteristics' of the cellular telephone as disclosed in col. 9, lines 15-25; wherein the cellular telephone determines the characteristics of the service being request as disclosed in col. 8, lines 29-31; to send the base station the request supporting by FDD or TDD schemes as disclosed in col. 7, lines 35-45; upon receive the request, the base station determines the scheme to use FDD or TDD, e.g. "*detecting the mobile station to which the channel for the service area based on the method TDD or FDD is currently assigned and the channel based on the other method can be assigned*", as disclosed in Fig. 8; col. 8, line 51 through col. 9, line 33. Therefore, Examiner concludes that Johnson teaches the arguable feature.

Claims 19, 21-23, 26 and 47-48 are rejected as in Part 5 above of this Office action and by virtue of their dependence from claims 2-5, 8-18, 20, 24-25, and 28-46.

Allowable Subject Matter

7.   Claims 16-17 would be allowable if rewritten or amended to overcome the objection(s) set forth in this Office action.

8.   Claims 7, 32 and 41-42 are allowed.

Conclusion

9.   The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure.

        Stern et al. (U.S.5,712,868) and **Whinnett et al.** (U.S.6,122,270) are all cited to show

devices and methods for improving the operation on different air interface technologies in the

telecommunications system architectures, which are considered pertinent to the claimed

invention.

10.   Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is

reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

        A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this

final action.

        Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Tri H. Phan, whose telephone number is (571) 272-3074. The

examiner can normally be reached on M-F (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Chau T. Nguyen can be reached on (571) 272-3126.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(571) 273-8300

Hand-delivered responses should be brought to Randolph Building, 401 Dulany Street,

Alexandria, VA 22314.

Any inquiry of a general nature or relating to the status of this application or proceeding

should be directed to the Technology Center 2600 Customer Service Office, whose telephone

number is (571) 272-2600.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BRIAN NGUYEN
PRIMARY EXAMINER

9/13/05

Tri H. Phan
September 13, 2005